# ecology and environment, inc.

108 SOUTH WASHINGTON, SUITE 302, SEATTLE, WASHINGTON 98104, TEL. 206-624-9537

International Specialists in the Environmental Sciences



## MEMORANDUM

DATE: 7/8/82

SUBJ: Yakima Agricultural Research

Laboratory, U.S.D.A.

TO: John Osborn

REF: TDD 10-8206-01

FROM: Jacqueline Betz (

CC: Phil Wong

## 1.0 SUMMARY

The U.S. Department of Agriculture's Research Laboratory in - Yakima, Washington, has been researching pesticides since 1961. Many unknown formulations of pesticides are analyzed and consequently disposed of in a septic tank that has a drainfield system.

Because the geology of the area is characterized by sands and gravels with high permeability, there is concern that pesticides may be leaching into the drinking water aquifer.

The Field Investigation Team (FIT) conducted a preliminary site investigation on June 24, 1982. The plant manager was (b)(6) and no one was knowledgeable about the history of pesticide disposal emethods and no maps were available to indicate the exact location of the drainfield system at the time. An HNU photoionizer, placed in shallow holes south of the septic tank dug by the FIT detected volatile organics in the soil above the background level. These volatile compounds were thought to be from the petroleum carrier solution mixed with the pesticides.

# 2.0 PHYSICAL DESCRIPTION

#### 2.1 LOCATION

The U.S. Department of Agriculture's Research Laboratory, 3706 West Nob Hill Blvd., Yakima, Washington 98902, is located within the city limits of Yakima in Section 27, Range 18 East, Township 13 North, Yakima West Quadrangle: Latitude 46°36'57", Longitude 120°33'37" (see Figure 1). The area is zoned for mixed use (commercial, residential, industrial).

#### 2.2 CLIMATE AND WATER BUDGET

According to the <u>Climatic Atlas of the United States</u> (U.S. Department of Commerce, 1968) this area receives approximately 8 inches of total precipitation annually with a mean annual lake evaporation of 42 inches. Approximately 75 percent of the precipitation falls in the period October through March.

The area is characterized by a dry continental climate because it lies in the rain shadow of the Cascade Mountain Range. The hottest months are June-August with temperatures as high as 100°F. The coolest months are December-February with minimum temperatures in the 20's F.

#### 2.3 GEOLOGY AND HYDROLOGY

Well logs indicate the immediate area is underlain by a sandy gravelly loam on top of a cemented sand and gravel referred to in some well logs as conglomerate. Soil permeability is high and slopes are low (<2%). Water yields in these gravels is relatively low but adequate for domestic needs. The major aquifer is in the Yakima basalt at depth (Foxworthy, 1962).

Ine water table is shallow (<20 feet), mainly because of extensive irrigation in the area during the summer, and also influx from creeks draining the mountains. Groundwater flow is to the southeast towards the Yakima River.

Well logs for domestic wells are not required by the County of Yakima, therefore, groundwater use in the vicinity cannot be quantifed. However, there are some well logs filed that indicate shallow wells downgradient are presently being used for private domestic purposes (see Well Logs, Attachment A). The primary use of groundwater in this area is for irrigation. Public water is supplied by the City of Yakima from the Naches River.

#### 2.4 LAND USE AND SENSITIVE HABITATS

The area surrounding the site is within metropolitan Yakima. More than 10,000 people live within a mile of the site. According to the U.S. Fish and Wildlife Service (USFW) no known threatened or endangered species inhabit this area. It is not registered as a critical habitat by the USFW.

#### 3.0 DISPOSAL PRACTICES

The research facility generated little waste from its beginning in 1961 through 1968 according to B. Brown, Administrative Officer. Wastes from 1961 through 1968 were disposed of on the ground. About 1968 the septic tank and drainfield system were installed to dispose of unused mixed pesticides from spray application equipment, wastes from a mixing formulation laboratory and rinse water from spray application equipment. A sink and toilet also drain into the 300 gallon septic tank.

The USDA estimates that about 250 gallons of mixed pesticides and about 5000 gallons of rinsate from the application equipment are injected into the septic tank each year.

43.70-62

#### 4.0 PRELIMINARY SITE INVESTIGATION

On June 24, 1982, the FIT visited the site with Dennis Bowhay, Washington State Department of Ecology. An HNU photoionizer, used to check for organics in the soil, showed several readings above the background level in the area to the south of the septic tank (see attached maps of the facility). There was a slight chemical odor. The cement drain for the septic tank was in active use while the FIT was on site (see photographs, attached).

#### 5.0 DISCUSSION

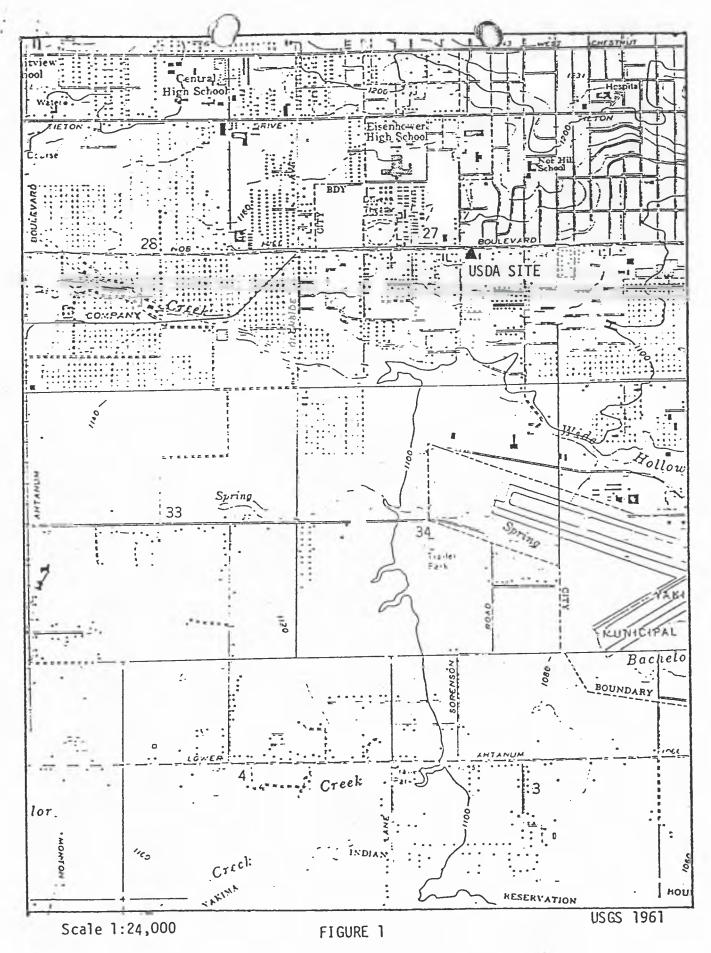
About 250 gallons of mixed pesticides and 5000 gallons of rinsate has been disposed of annually for the last 14 years at this site. It is assumed that some of these pesticides are toxic and persistent and pose a threat to human health and the environment. There is the possibility of offsite migration of pollutants into the unconfined aquifer, used downgradient for private domestic drinking water wells.

#### 6.0 CONCLUSIONS AND RECOMMENDATIONS

Unknown formulations of mixed pesticides are likely to be leaching into the groundwater and migrating offsite. The FIT recommends that \_domestic wells in the area be sampled and analyzed for priority pollutants and pesticides. An upgradient domestic well could be used as a monitoring well and 'a minimum of two downgradient wells onsite should be installed to determine what migration may be taking place.

#### REFERENCES

- Foxworthy, B.L., 1962, Geology and groundwater resources of the Ahtanum Valley, Yakima County, WA. U.S. Geological Survey, Water Supply Paper 1598.
- U.S. Geological Survey (USGS), 1958, (photorev. 1974) Yakima West, WA.: National Topography Map Series, Scale 1:24,000.



YAKIMA AGRICULTURAL RESEARCH LABORATORY, YAKIMA, WA

Orifinal :	and First	Copy	with
ariment o	( Ecology	•	
und Copy	Owner	's Cop	У
rd Cupy -	Drifler's	Capy	
	4	-	/1 \ /

# WATER WELL REPORT

TO	N	
(b)	(6)	

Αp	pli	ca	tio	ก	No

Pe,	mit	No	

514 SE 4 Sec 27 T. 13 N. R. 18 W

und	Copy — Owner's Copy	WASHINGTON
	(D)(6)	(b)(6)
_		Address .
	OCATION OF WELL: County	_ SWy SEy
	and distance from section or subdivision corner	Lan were too
) P	ROPOSED USE: Domestic X Industrial   Municipal	(10) WELL LOG:
	Irrigation   Test Well   Other	Formation: Describe by color, character show thickness of aquifers and the kind stratum penetrated, with at least one e
) I	YPE OF WORK: Owner's number of well (if more than one)	MATERIAL
	New well Method: Dug Bored	Tale Soil.
	Deepened	Constante.
		- 0
	olimensions: Diameter of well 5 inches.  onlied 11 Depth of completed well 5.8 ft.	
C	ONSTRUCTION DETAILS:	
C	asing installed: 5 " Diam from O ft to 28 16 it	
	Thresded [] ." Diam. from ft. to ft.	14/
	Welded Diam. from ft. to ft.	W
P	erforations: Yes 🛛 No 💢	
	Type of perforator used	
	SIZE of perforations	
	perforations from	
	perforations from	
S	creens: Yes O No	
	Manufacturer's Name	- Yoda
	Listin Slot size from ft. to	5 1
	Diat Slot size	- 1
G	ravel packed: Yes O No Size of gravel:	- 15
	Greet placed from	100
S	urface scal: Yes No D To what depth? 18 n.	Tra .
	Material used in scal Bertenite:	7-
	11id any strata contain unusable water? Yes 🗍 ·· No 🗋	
	Type of water?	13
-		
ľ	UMP: Manufacturer's Name Type: H.P	144 1 7 1981
11	ATER LEVELS: Land-surface elevation affu. 1100 above mean sea level	<
ic le	71 11	C
's:ar	pressure lbs. per square inch Date	
	Artesian water is controlled by (Cap, valve, etc.)	
	ELL TESTS: Drawdown is amount water level is lowered below static level	Work started 2 /2 _ 19.81
a ;: d:	nump test made? Yes : No : If yes, by whom?  2	WELL DRILLER'S STATEMI
L	rithais	This well was drilled under my
	47 49	true to the best of my knowledge
	y data (time taken as zero when pump turned off) (water level sured from well top to water level)	NAME JENSENS WELL D
ımc	Water Level   Time Water Level   Time Water Level	(Person, firm, or corp
	www.comme = 1	Address 16.6.3 Soule Al
	The same of the sa	_ /7 . 1 /
	e of test	(Signed) Chris B. 4
er t		/w
	sture of water 56 Was a chemical analysis made? Yes 1 No X	License No. 02/7

40 den 70 55	(10) WELL LOG:		
MATERIAL FROM TO  10 59	formation: Describe by color, character, size of mater how thickness of aquifers and the kind and nature of tratum penetrated, with at least one entry for each	al and stru the materi change of	cture, d al in e formati
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81			TO
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81	Top Soil	10	10
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81	Constante.	110	.58
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81	0		
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81		1	-
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81			-
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81			-
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81			
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81	1./		
ork started 2 = 121981. Completed 2 = 121981	W		
ork started 2 - 121981. Completed 2 - 121981			
ork started 2 = 121981. Completed 2 = 121981			
ork started 2 /2 19.81. Completed 2 - /2 19.81			
ork started 2 = 121981. Completed 2 = 121981			
ork started 2 - 121981. Completed 2 - 121981		1	
ork started 2 /2 19.81. Completed 2 - /2 19.81			
ork started 2 = 121981. Completed 2 = 121981	1		-
ork started 2 /2 19.81. Completed 2 - /2 19.81	4000me	77	
ork started 2 /2 19.81. Completed 2 - /2 19.81	3 V		
ork started 2 /2 19.81. Completed 2 - /2 19.81		Ĩ	-
ork started 2 /2 19.81. Completed 2 - /2 19.81	- 12 2	1	
ork started 2 = 1219.81. Completed 2 - 1219.81	3, 5 ×	1	
ork started 2 = 121981. Completed 2 = 121981	2 8	i	
ork started 2 = 121981. Completed 2 - 121981	2 8	i	
ork started 2 = 12., 19.81. Completed 2 - 12., 19.81		1 1	
ork started. 2 /2 19.81. Completed 2 - /2 19.81	No.	I	
ork started. 2 /2 19.81. Completed 2 - /2 19.81	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
ork started 2 - 12., 19.81. Completed 2 - 12., 19.81	148 T 2 1981	1	
	1 1 2 1301	1	
	C		
		1	
	-		
		1	
		1	
	ork started 2 - /2 19.81 Completed 2	- 12	. 14 8
	ELL DRILLER'S STATEMENT:		

true to the best of my knowledge and belief.

NAME JENSENS WELL DRILLING + DRIVING. Address 16.63 Soule AVE, YAKIMA, WASH , [Signed] Chris B. July St.

-	opy - Owner's Copy  (b)(6)	STATE OF W	ASHINGTON (b)(6)	Permit No		
1) .(	OWNER: Name		Addres	Yak	ama	Wat
2) I	LOCATION OF WELL: County 1/2/2-14		-71Ex	SIL IS Sec 27 I/		
	ng and distance from section or subdivision corner ,	E16-4 2/11	16-8' 471 243.10	152071		.C. W.M.
F	PROPOSED USE: Domestic of Industrial	Municipal [	(10) WELL LOG:			
4	Irrigation [] Test Well []		Formation: Describe by color	character, size of materia	l and stru	cture, and
() 0	LABE OF MOBR. Swher's number of well	,	show thickness of aquifers an stretum penetrated, with at 1	d the kind and nature of t	he moteri	of in each
1) ]	(if more than one)	Bored	MATER	IAL	FROM	TO
	Deepened		Top Sal	Ł .	6	4,_
	Reconditioned [ Rotary)	Ø Jetted □	9/2/2001	64	17	51
i) I	DIMENSIONS: Diameter of well	inches.	- Harring	Jan day	4	27
D	orilled 6: 15	6.5_1	Souditain's	What Town	34	57
1 0	CONSTRUCTION DETAILS:			11 11	-6-7	41
7	Casing installed.	. HA	Luddoned	thank Lines		
C	Threaded [] Diam. from ft.		2017 1101	7		
	Welded ☑ from ft.		Grath Water		51	65.
p	rerforations: Yes No Y					
	Criorations: Yes No No Type of perforator used					
	SIZE of perforations in. by					
	perforations from ft. to ft. to ft. to ft. to					
	perforations from ft. to ft. to					
C	·					
2	Manufacturer's Name					
	Type Model No.				1	
	Diam Slot size from ft.	1		-		
	Diam Siot size from ft.	101L				
G	Fravel packed: Yes 🗆 No 💆 Size of gravel:	1 .				
	Gravel placed from ft. to	7.0	<del>-</del>	-		
S	urface seal: Yes No D To what depth?	0 6 11.				
	Material used in seal					
	Did any strata contain unusable water? Yes  Type of water? Depth of strata	- 7 I				
	Method of scaling strata off					
P	UMP: Manufacturer's Name					
•	Туре: Н.	P			,	
) 15	VATER LEVELS: Land-surface elevation					
tic le	11 1/2 above mean sea jevel	09-11-74				
	n preusure					
	Artesian water is controlled by (Cap, valve	e, ctc.)			i	
111	ELL TESTS: Drawdown is amount water 1					
	nump test made? Yes No If yes, by whom?		Work started, 29-11	19.14. Completes 27	-//	15/14
	(2) gal/min. with 11 drawdown after	hrs.	WELL DRILLER'S ST	ATEMENT:		
	Providentilit	••	This well was drilled u	nder my jurisdiction a	nd this i	report is
			rue to the best of my kn	owledge and belief.		
Ties.	ry data (time taken as zero when nump turned off) sured from well top to water level)		CANE CONTRACT	wolf /45/1/.	in 9	VIC_
ime	Water Level Time Water Level Time	Water Level	NAME . (Person, firm	i, or corporation) (T	Spd or br	int)
			Address 20021811	rescipped Hicker	ile li	:01
			111 -	1161 +	/	,
	e of test		[Signed] Liciliz	Marilu	ici (	
	estgal/min. withft. drawdown after n flowg.p.m. Date		(110	(Well Daller)		211
	sture of water Was a chemical analysis made?	(a)	License No.	Date 7	//	., 19./4
				• /		

# WATER WELL REPURI

STATE OF WASHINGTON

Permit No. . . G 3-20651 F

1) OWNER: Name City of Yaltima		Acdress 129 N. 2nd St., Yakima, Wa.	98901	
2) LOCATION OF WELL: County	U-1-3	— SW _ 14 SW _ 14 Sec_ 27_ т.1		
b and distance from section or subdivision		20' from SE cor. SW\(\frac{1}{2}\)SW\(\frac{1}{2}\)		-CIW
2) PROPOSED USE: Domestic   Ind		(10) WELL LOG:		
Frigation ☐ Tes		Formation: Describe by color, character, size of materia show thickness of equifers and the kind and nature of t	1 and struc	ture, on
4) TYPE OF WORK: Owner's number of	of well	show thickness of equifers and the kind and nature of the stratum penatrated, with at least one entry for each of	he materia	il in cac
(d, te cial one	Dug   Bored	MATERIAL	FROM	TO
Deepened []	Cable 2 Driven	top soil tan	0	ž
Reconditioned []	Rotary   Jetted	Conclonerate travel & boulders fir	5 5	75
5) DIMENSIONS: Diameter of w	. 8	zravel & sand med. soft	75	03
Drilled 552 ft. Depth of complete	ell 522 inches.	Sand gray loose med. to fine	1 03	52
		Concloserate gray fire	Se	100
ONSTRUCTION DETAILS:		Semistone with gravel a silt Med s		105
Casing installed: 12 " Diam from _	0 n. to 50 n	Conglowerste ten med. firm	106	115
Threaded []	±2 n. 10 552 n.	graveli sand silt brown s	117	145
Welded IX Dlam. from _	ft. to ft.	tan hard	145	147
Perforations: Yes & No D		* Sand & gravel silted m. so		202
Type of periorator used star		cogras ten helvy silt	202	215
SIZE of perforations m	. by m.	" clsv sind s. Frivel soft	215	219
2400 perforations from 245	ft. to ft.	tan firm	219	5.50
perforations from		* rravel A sand-clay interbe		241
реногазова пол	11. 10 11.	* ton hard	241	246
Screens: Yes   No.D		a ten firm-narrow soft strat		262
Nanufacturer's Name		Clay ten with small crayel ; and		271
Type M  Mam, Slot size from from m	1	Compacted small growel-sand-silt		
Diam Slot size from _		light brown-sond water	50.271	250
		Clay-ton-some gravel-sand soft	580	286
Gravel packed: Yell No E Size o		Concloserate tan (light) -ed fir	236	305
Gravel placed from ft.	10	Companier sand-small gravel tab		
Surface seal: Yes No D To what	depth7 _55 n_	light stit (value)		512
Material used in seal Reat Ceme		Corport gravel-sand-hoover silt		
Did any strata contain unusable water		ton (wtar)	- 12	324
Type of water? Depth of Method of sealing strata of	), strate	Compact send-coarse-brown(weter)	354	_351
		Cley with sand-tight	.231	
i) PUMP: Manufacturer's NameTait				
Type:Verticle Turbine	н.р60	Vejor anusters at 271ft to 250ft		
) WATER LEVELS: Land-surface elev		2050t to 3710t		
atic level 10 ft. below top of we	II Date 9/26/73	71,750,00	i	
tesian pressureIbs. per square inc		Other noticable lesser sourfors	1	
Artesian water is controlled by	Cap, valve, etc.)	Sort to Eart 100st to 10 set		
N THEFF TECTS. Drawdown is amou	et water level to	Fassible other unAticable marrow	Terrole	
lowered below state	le level		/25	19.75
as a pump test made? Yes D No D U yes, by v	- 1	WELL DRILLER'S STATEMENT:		
eld: <u>600 gal/min. with 60 ft. drawdo</u> - 500 - 62 -	un after 6 hrs.			
	- 10	This well was drilled under my jurisdiction a true to the best of my knowledge and belief.	nd this r	eport is
covery data (time taken as zero when pump tu	rned off) (water level			
measured from well top to water level)		NAME Cassel Well Drillin-		
	Time Water Level 2:05 25		ype or pri	nt)
		Address 1508 Yoelker Yakita, Wn. 90	305	
		, // '7 / ':		**** *******
or test . 2/12/23		(Signed) Truck in Cass	20	
• • •	lown alerl_hrs.	(Well Driller)		
tesian flow		License No. 0075 Date 9/2:/7	75	10
imperature of water. Was a chemical analysis	The wool	Date M. Date M. Control		, 4 <i>9</i>

# WATER WELL REPORT STATE OF WASHINGTON

Application No.C 3-20651

Permit No. . . G 3-20651 P

1)	OWNER: Name City of Yakima	Address 129 N. 2nd St., Yakima, Wa.	98901	
2)	V-1-in:			
31	and distance from section or subdivision corner N. 50° W 3	20' from SE cor. SW\2SW\2		Manager VV and Co.
3)	PROPOSED USE: Domestic   Industrial   Municipal	(10) WELL LOG:		
	Irrigation [ Test Well   Other	Formation: Describe by color, character, size of materia show thickness of aquifers and the kind and nature of t stratum penetrated, with at least one entry for each cl	l and struct he materia	ture, and I in each
4)	TYPE OF WORK: Owner's number of well (if more than one)	MATERIAL	FROM	
	New well 🗓 Method: Dug 🗌 Bored 🗋	top soil tan	O	TO
	Deepened ☐ Cable ☑ Driven ☐ ☐  Reconditioned ☐ Rotary ☐ Jetted ☐	Conclomerate travel & boulders fir		75
		gravel A sand med. soft	75	£0
5)	DIMENSIONS: Diameter of well inches.	Sand cray loose med. to fine	69	52
	Drilled 552 ft. Depth of completed well 702 ft.	Conclomerate gray firm	52	100
61	CUNSTRUCTION DETAILS:	Sandstone with gravel & silt led s.	£ 100	106
0)		Conflowerate Lan wed. firm	106	1:=
	Casing installed: 12 "Diam. from 0 ft. to 50 ft.  Threaded [] 8 "Diam. from ±2 ft. to 552 ft.	gray hard	115	129
	Welded A Diam. from ft. to ft.	gravel& sand silt brown a		145
		tan hard	145	147
	Perforations: Yes & No []	Sand & gravel silted m. s		202
	Type of perforator used star  SIZE of perforations in. by 11 in.	n coarsa tan heavy silt	505	215
		" clay sand s. gravel soft	2.15	215
	perforations fromft. toftft.	tan firm	219	225
	perforations from ft. to ft.	Fravel & Send-Clay interce		2-1
	Screens: Yes [ No.[	- ton card	241	245
	Manufacturer's Name	" ten firm-narrow soft stret	50262	262
	Type Model No	Compacted stell gravel-sand-silt	50202	271
	Diam. Slot size from ft. to ft.  Diam. Slot size from ft. to ft.	light brown-good water	50.271	285
	Diam. Stot size	Clay-tan-some grayel-sand soft	280	254
	Gravel packed: Yes □ No Ø Size of gravel:	Conslowerate tan (light) med fir	T	30=
	Gravel placed from ft. to ft.	Contacted sand-small cravel tan-		-
	Surface seal: Yes No   To what depth? 56 ft.	li-ht silt (water)	202	215
	Material used in seal Neat cement	Townset gravel_sand_heaver silt		
	Did any strata contain unusable water? Yes [] No [2]	ton (witer)	-12	32-
	Type of water? Depth of strata	Boroact sand-coarse-brown(water)	524	55"
	Method of sealing strata off	Glay with sand-tight	231	_552
7)	PUMP: Manufacturer's Name Tait			
	Type: Verticle Turbine HP 60			
8)	WATER LEVELS: Land-surface elevation 1765 ft.	Major aquaters at 2716t to 280ft		
	e level 16 ft. below top of well Date 9/26/73	305ft to 331ft		
	ian pressurelbs. per square inch Date	Other noticable lesser sousfers		<del></del>
	Artesian water is controlled by (Cap, valve, etc.)	Sort to Seet 1000t to 1000t		
		- Passible other updticable marrow	1	
9)	WELL TESTS: Drawdown is amount water level is lowered below static level	Work started 7/15 19.75 Completed 9		10 7
	a pump test made? Yes 🖾 No 🗋 If yes, by whom 🖰 Osseens		/	, 13
ield	: 600 gal/min. with 60 ft. drawdown after 6 hrs.	WELL DRILLER'S STATEMENT:		
-	500 " 62 " 10 "	This well was drilled under my jurisdiction true to the best of my knowledge and belief.	and this	report is
-	very data (time taken as zero when pump turned off) (water level	and to the best of the financial and belief.		
eco	neasured from well top to water level)	NAME Cassel Well Drillin-		
Ti	ne Water Level Time Water Level Time Water Level 2:00 30 2:015 50 2:05 25		Type or pr	int)
	2.00	Address 1508 Voelker Yakita, Wn. 9	6902	
			h.	
\	of test 3/12/73	[Signed] Jarrel in France	100	
aile	r test 50 gal/min, with 12 ft, drawdown after 1 hrs.	(Well Driller)	v. 7	••••••
	sian flow g.p.m. Date perature of water 55 Was a chemical analysis made? Yes No	License No. CO75 Date 9/20/	75	10
em	Definition of Materians and a chemical analysis highlight to	Date. A		, 40
	1.4 14 (USE ADDITIONAL SI	EETS IF NFCESSARVI		

WATER WELL REPORT nent of Ecology Copy — Owner's Copy opy — Driller's Copy Application No. STATE OF WASHINGTON Permit No. -- -2 (b)(6)(1) OWNER: Name. Address (2) LOCATION OF WELL: County # 146 K 419 ME 4 SUV 4 Sec 27 Bearing and distance from section or subdivision corner A (10) WELL LOG: Domestic Municipal | Municipal | ., PROPOSED USE: Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. Irrigation | Test Well | Other (4) TYPE OF WORK: Owner's number of well (if more than one) MATERIAL New well M Method: Dug Bored [ Cable [] Deepened Driven [] Reconditioned □ Rotary V Jetted [] (5) DIMENSIONS: Diameter of well ... inches. Drilled 6.5 Depth of completed well..... (6) CONSTRUCTION DETAILS: Casing installed: ." Diam. from ...... Threaded [ " Diam. from ...... ft. to ..... ft Welded V Perforations: Yes | No X Type of perforator used..... SIZE of perforations ..... ..... in. by .... ..... perforations from ..... ft. to ...... perforations from ...... ft. to ...... ... perforations from ..... ft. to ..... Screens: Yes | No | Manufacturer's Name..... ..... Model No... Diam. ..... Slot size ......... from ..... ft. to ...... Diam. ... Slot size ...... from ..... ft. to ...... Gravel packed: Yes □ No ☑ Size of gravel: .... Gravel placed from ..... ..... ft. to ..... Surface seal: Yes No | To what depth? Material used in seal Distlement Did any strata contain unusable water? No 🔀 Type of water?..... ..... Depth of strata.... Method of sealing strata off... (7) PUMP: Manufacturer's Name. (8) WATER LEVELS: above mean sea level... ft. below top of well Date 🗸 .....lbs. per square inch Date..... Artesian water is controlled by .... (Cap, valve, ctc.) Drawdown is amount water level is lowered below static level (9) WELL TESTS: Was a pump test made? Yes [ No [] . If yes, by whom?... WELL DRILLER'S STATEMENT: gal./min. with hrs. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. .. Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) Water Level Time Water Level Water Level

gal/min. with ft. drawdown after..... \_\_\_\_g.p.m. Date... Temperature of water...... Was a chemical analysis made? Yes [] No [X

r test...

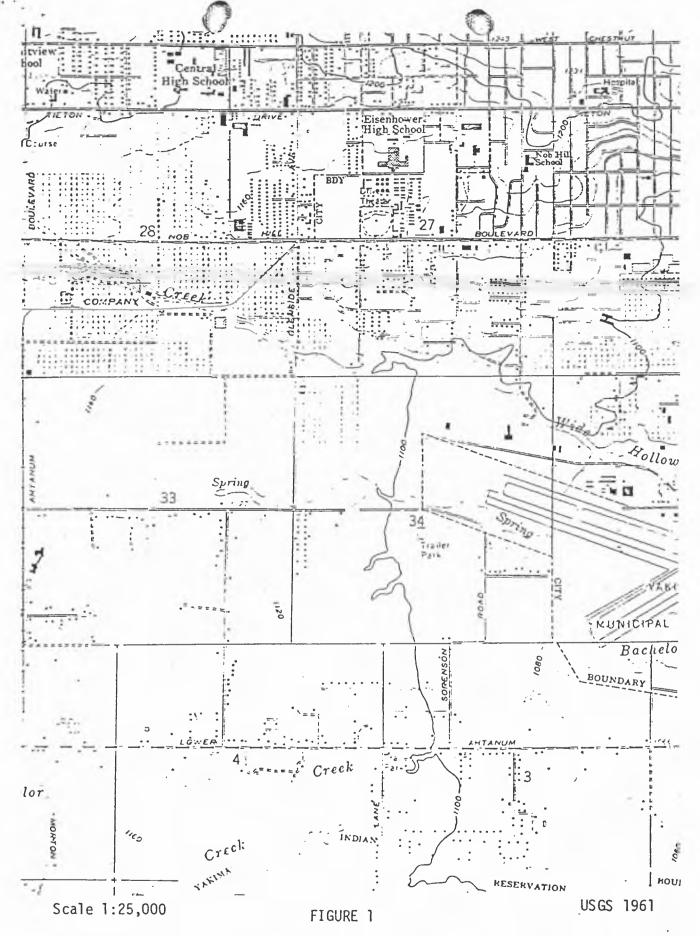
File Original and First Copy with Apariment of Ecology second Copy — Owner's Copy hird Copy — Driller's Copy

# WATER WELL REPORT STATE OF WASHINGTON

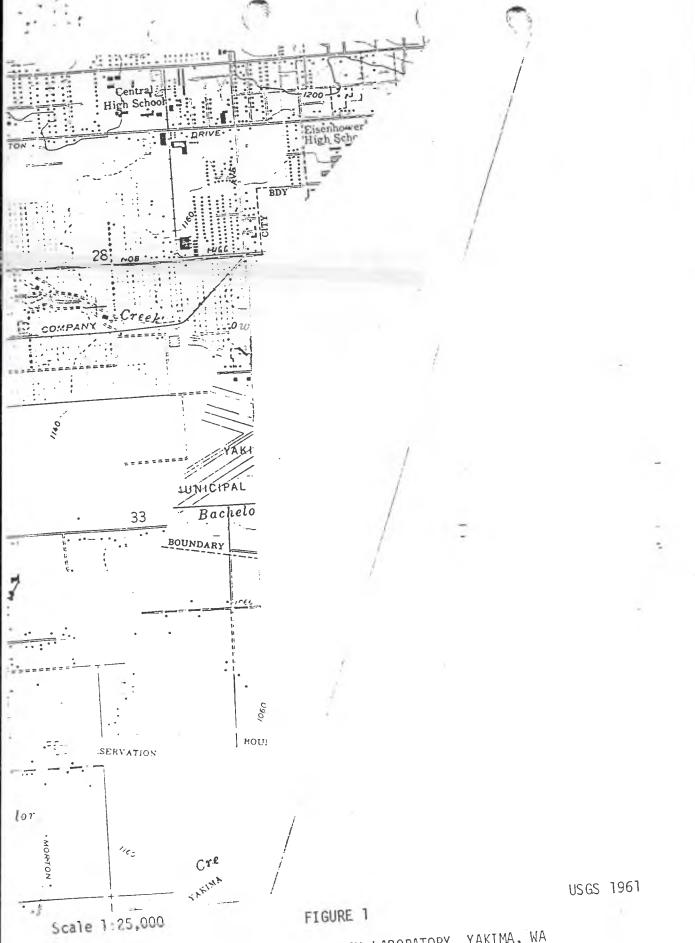
Application No.	-/-
	./
 Permit No	

(1) OWNER: Name	(b)(6)	Ashima, Wash.
2' LOCATION OF WELL: County Making		ec 27 T.13 N. R. 18 W.M.
, ag and distance from section or subdivision corner		ec T. I. JN., R. J. JW.M.
	(10) WELL LOC	
3) PROPOSED USE: Domestic X Industrial  Municipal I Irrigation  Test Well  Other	(10) WELL LOG: Formation: Describe by color, character,	size of material and structure, and
4) TYPE OF WORK: Owner's number of well	Formation: Describe by color, character, a show thickness of aquifers and the kind of stratum penetrated, with at least one en	ina nature of the material in each try for each change of formation.
New well Method: Dug Bored	MATERIAL	FROM TO
Deepened	Tap Sail	0 10
Reconditioned	Conglanation	10 58
5) DIMENSIONS: Diameter of well 5 inches.  Drilled ft. Depth of completed well 5.8 ft.		
6) CONSTRUCTION DETAILS:	r	
Casing installed: 5 "Diam. from O 11. to 28' /c' 11.  Threaded	W/	
Perforations: Yes No X  Type of perforator used		
perforations from		
Screens: Yes No V		
Manufacturer's Name Type Model No	40 dan	<i>-</i>
Diam. Slot size from ft. to ft. Diam Slot size from ft. to ft.	3 1	<u>u</u>
Gravel placed from Size of gravel	- 12	1 × ×
Surface seal: Yes No To what depth? 18 tt.  Material used in seal Penterial:  Did any strata contain unusable water? Yes No  Type of water? Depth of strata.  Method of sealing strata off	100 mg	
7) PUMP: Manufacturer's Name	MAR 1 2 1981	
8) WATER LEVELS:  tatic level 7' 4' ft below top of well Date 2 - 12-81.  Ibs. per square inch Date  Artesian water is controlled by  (Cap. valve, etc.)	3	
9) WELL TESTS: Drawdown is amount water level is lowered below static level	Work started 2 1981 C	ompleted 2 - 12.1981
Vas a pump test made? Yes \( \) No \( \) If yes, by whom?  1eld: \( \) \( \) gal/min, with \( \) ft drawdown after \( \) hrs	WELL DRILLER'S STATEME	
· withour -	This well was drilled under my	
- " " "	true to the best of my knowledge a	and belief.
ecovery data (time taken as zero when pump turned off) (water level measured from well top to water level)  Time Water Level Time Water Level Time Water Level	NAME JENSENS WELL D	RILLING + DRIVING ration) (Type or print)
	Address 1663 Soule AV.	E.YAKIMA,WASH :
e of test	[Signed] Chris B. J.	means for
rtesian flow	02/7	Date 3 - 12 1981
_ ~	1	

וזוכף ארוחודיותאיאו בנודיותה זה אירתיות איהי



YAKIMA AGRICULTURAL RESEARCH LABORATORY, YAKIMA, WA



YAKIMA AGRICULTURAL RESEARCH LABORATORY, YAKIMA, WA